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# SNOWSHOES



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## INTRODUCTION

MY FIRST EXPERIENCE WITH "SNOW" CAME FROM A TELEVISION SET WITH VERY POOR RECEPTION AND REMAINED MY ONLY EXPERIENCE, UNTIL A VISIT TO THE MOUNTAINS IN MY NATIVE, NEW ZEALAND, PUT BOTH LEGS OUT OF COMMISSION WHILE TRYING TO ATTEMPT A VERTICAL SKI RUN BEFORE THE SKI CLASSES STARTED.

BEFORE COMING TO CANADA IN 1964 SNOWSHOES WERE AS FOREIGN TO ME AS SURFBOARD WOULD BE TO AN ESKIMO AND JUST ABOUT AS USEFUL, HOWEVER SINCE BUILDING MY OWN SHOES AND USING THEM WITH A GREAT DEAL OF PLEASURE, I HAVE FOUND A SENSE OF PRIDE AND ACHIEVEMENT THAT TOO MANY PEOPLE MISS OUT ON, HENCE, THIS ATTEMPT TO EXPLAIN HOW A PAIR OF USEABLE AND INEXPENSIVE SNOWSHOES CAN BE MADE.

AS THE DESIGN OF THE SHOE IS OF INDIAN ORIGIN AND THE BUILDING METHOD MY OWN, I CALL THE "STYLE" A CROSS BETWEEN AN ALGONQUIN AN OJIBWAY AND A TENNIS RACKET, THE LATER BEING A FACE SAVING NAME FOR THE BUILDER WHO FINDS AS I DID THAT SUMMER WAITS FOR NO MAN.

## FRAME CONSTRUCTION

THE CHOOSING OF A SUITABLE WOOD BECAME A MAJOR OBSTACLE DURING THE EARLY STAGES OF CONSTRUCTION, SO, AFTER MANY DISSAPOINTMENTS AND BROKEN FRAMES I SETTLED ON "BIRCH" WHICH MAY NOT BE THE ULTIMATE IN BUILDING MATERIALS BUT SURPASSED ANYTHING I HAD TRIED PREVIOUSLY. THIS WOOD I WAS LATER INFORMED IS USED BY MANY INDIANS PROVING THAT BY THE PAINFUL PROCESS OF ELIMINATION I HAD SUCESSFULLY BYPASSED THE SIMPLE PROCEDURE OF ASKING THOSE WHO KNOW.

THE BIRCH SHOULD BE CLEAN, STRAIGHT GRAINED, 7/8" SQUARE AND APPROXIMATELY 5' LONG. FOUR PIECES ARE NEEDED AND THESE CAN BE TAPPERED TO 3/8" x 7/8" 6" BACK FROM ONE END. THE TAPER SHOULD BE ON ONE SIDE ONLY, THIS SIDE CAN BE CALLED "TOP FRONT" AND MARKED ACCORDINGLY. THIS SMALL PRECAUTION PREVENTS THE BUILDER FROM PARTING THE WOOD FIBRES WHILE MAKING THE FIRST BEND.

IT STANDS TO REASON THAT UNLESS THESE WOOD PIECES ARE TRANSFORMED FROM MERE PARALLEL STRIPS TO CURVATIOUS FORMS, STRINGING AND WEAVING WILL BE RATHER DIFFICULT, SO A METHOD OF STEAMING AND FORMING IS NEEDED.

THE METHOD I USED REQUIRED 6' OF PIPE (FROM 1" DIAMETER UP) WRAPPED IN INSULATION (FIBERGLAS) AND LAID FLAT ON THE FLOOR GIVING CONSIDERATION TO WATER DRAINAGE. ONE END OF THE PIPE I CAPPED, LEAVING A SMALL 1/4" DRAIN HOLE AT THE TOP CENTRE TO TAKE THE OVERFLOW. THE OTHER END NEEDS A REMOVABLE PLUG (TO PROVIDE ACCESS TO THE INSIDE) AND A FUNNEL MOUNTED ON TOP APPROX. 4" DOWN THE PIPE.

Rec'd: Sept 27/71  
Order No.:

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THE WOOD IS WRAPPED VERY TIGHTLY WITH CANVAS STRIPS AND PLACED IN THE PIPE WHICH IS THEN SEALED AND FILLED WITH BOILING WATER, THIS BEING DISPLACED BY MORE BOILING WATER EVERY 10 MINUTES HENCE THE OVERFLOW HOLE BEING DOWNSTREAM. THE CANVAS IS VERY IMPORTANT AS IT HAS A TENDANCY TO SHRINK WHILE WET AND PREVENTS THE WOOD FIBRES FROM PARTING COMPANY WITH EACH OTHER DURING BENDING.

AFTER APPROXIMATELY ONE HOUR OF THIS HEAT TREATMENT THE PIECE OF CANVAS COVERED WOOD CAN BE BENT OVER THE LEFT KNEE WITH GREAT EASE AND MUCH PAIN, HOWEVER TO PREVENT UNNECESSARY DISCOMFORT A "FORM" SHOULD HAVE BEEN BUILT PRIOR TO THE STEAMING, AND THE WOOD GENTLY BENT, CLAMPED AND LEFT UNTIL COMPLETELY DRY (APPROXIMATELY 2 DAYS).

BUILDING THE FORM IS LIKE BUILDING A TOBOGGAN UPSIDE DOWN AND IS BETTER ILLUSTRATED THAN DESCRIBED SO THE FIRST DIAGRAM CAN BE REFERED TO.

BENDING THE FRAMES REQUIRES BOTH THE PHYSICAL STRENGTH OF A MIDGET AND THE MENTAL STRENGTH OF A GIANT AS THE TENDANCY TO BEND TOO FAST HAS BROKEN MANY OF MY EARLIER FRAMES.

THE MOST SATISFACTORY WAY I FOUND OF REMOVING THE TWO NOW DRY HALVES FROM THE MOLD WAS TO "MAKE OFF" BOTH ENDS AND INSERT A SPACER AT THE MIDSECTION TO HOLD THE SHOE'S SHAPE.

INSTALLING MID AND NEAR SUPPORTS PRESENT VERY FEW PROBLEMS AS DIAGRAM 2 FIGURE 3 ILLUSTRATES AND CAN BE COUNTERSUNK  $1/4$ " INTO THE FRAME SIDES.

DRILLING, SANDING AND VARNISHING FOLLOW, WITH CARE BEING TAKEN TO ENSURE THE SPACING AND NUMBER OF HOLES TO BE AS ACCURATE AS POSSIBLE.

IT SHOULD BE MENTIONED AT THIS POINT THAT THE SIZE OF THE SHOE DEPENDS ON THE SIZE OF THE USER SO INSTEAD OF GIVING MEASUREMENTS ON THE FRAME IN DIAGRAM 2 IT HAS BEEN DRAWN SCALE SO ANY PROPORTIONAL MEASUREMENTS CAN BE USED. THE HEIGHT A-D IN DIAGRAM 2 WAS TAKEN FROM MY ARMPIT TO THE GROUND, SO, UNLESS YOUR ARMPIT IS OVERPOWERING AND THUS UNACCESSABLE THIS IS A SATISFACTORY MEASUREMENT.

IN ORDER TO PROTECT THE WOOD BETWEEN B-C AND F-E ON DIAGRAM 2 I SEWED LINEN AROUND THE WOOD, THIS IS ENTIRELY OPTIONAL BUT SERVED ITS PURPOSE WELL AS THE WEAVE WRAPS AROUND THE FRAME BETWEEN THOSE POINTS.

#### THE FRONT WEAVE

FOR WEAVING MATERIALS I USED HOUSEHOLD PLASTIC STRING ( $1/16$ " DIAMETER) FOR THE SUPPORT STRING (B-A-F AND C-E-D ON DIAGRAM 2). ONE STRAND OF 3 CENT POLYPROPYLENE ROPE ( $3/32$ " DIAMETER PER STRAND) FOR THE FRONT AND REAR WEAVES AND ONE STRAND OF 4 CENT POLYPROPYLENE ( $5/32$ " DIAMETER PER STRAND) FOR THE CENTRE.

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50 FEET OF THE 3 CENT ROPE WILL DO BOTH FRONT AND REAR WEAVES ON BOTH SHOES AS THE THREE STRANDS COVER 50 FEET OF WEAVE FOR THE FRONT AND 25 FEET FOR THE REAR. THE CENTER TAKES 75 FEET OF THREE STRAND ROPE AND LEAVES A SINGLE STRAND AS WASTE.

USING THE 1/16" DIAMETER HOUSEHOLD STRING START THE WEAVE SUPPORT AT B ON DIAGRAM 2, LOOP THROUGH THE DRILLED HOLES (FIGURE 2, DIAGRAM 2) TO "A" DOWN TO F THEN ACROSS TO B USING THREE TIES ALONG B-F (DIAGRAM 2) AND TIE OFF THE END, USING A SOLDERING GUN TO MELT THE LOOSE PIECE INTO A RIVET AFTER TYING.

PEOPLE OFTEN ASK "WHY USE PLASTIC ROPE FOR WEAVING INSTEAD OF THE CONVENTIONAL HIDE OR GUT". MY REASONS ARE ANSWERED BY THE MATERIAL ITSELF AS IT IS LIGHT, WATERPROOF, DOES NOT STRETCH OR SHRINK, WELDS TOGETHER (A SMALL MOLD AND SOLDERING GUN) IS READILY AVAILABLE AND COST APPROXIMATELY \$4.00 TO STRING TWO SNOWSHOES. I'M SURE THAT, HAD PLASTICS BEEN AVAILABLE TO THE EARLY NATIVES THE FIRST 10,000 MILE WARRANTY WOULD HAVE BEEN ISSUED LONG BEFORE CARS WERE INTRODUCED.

WITH THE 3/32" DIAMETER ROPE START AS FIGURE 6 ON DIAGRAM 3 INDICATES, WITH A CLOVE HITCH. THE REST CAN BE FOLLOWED USING DIAGRAM 3, KEEPING IN MIND THAT FIGURE 7 IS THE "KEY" TO ALL THE WEAVES AND PROBABLY THE MOST IMPORTANT THING TO REMEMBER WHILE WEAVING AT ANY STAGE.

AT COMPLETION OF THIS WEAVE "DO NOT" CUT THE LEFT OVER ROPE AS THIS IS USED LATER FOR THE TOE HOLE WEAVE (TOP THREE DRAWINGS DIAGRAM 6).

#### THE BACK WEAVE

HAVING GAINED EXPERIENCE WITH THE FRONT WEAVE, THE BACK IS RELATIVELY SIMPLE AND CAN BE STARTED AS DIAGRAM 2 INDICATES INSTALLING THE SUPPORT WEAVE C-E-D AND MAKING THE END OFF AS FOR THE FRONT. DIAGRAM 4 GIVES THE START WEAVE POINT AT THE MIDPOINT OF BAR C-E (DIAGRAM 2) AND THE FINISH WHEREVER A NEAT KNOT CAN BE MADE.

#### THE MID OR CENTRE WEAVE

OF ALL THE THREE WEAVES THIS IS THE MOST CHALLENGING AND CAN BE THE MOST DIFFICULT IF THE FIRST STAGES ARE NOT FOLLOWED WITH CARE (DIAGRAM 5).

FIGURE 1 (DIAGRAM 5) SHOWS THE WEAVE STARTING AT "TOP LEFT" WITH A CLOVE HITCH (BE SURE TO RIVET THE LOOSE END WITH A SOLDERING GUN AS PLASTIC KNOTS SLIP) THEN AFTER CROSSING THE SHOE THREE TIMES (DIAGRAM 5) LOOP OVER THE STRAINERS (TOP RIGHT FIGURE 1) AND DROP TO THE CENTRE OF BAR C-E FIGURE 3 THEN UP TO THE TOP STRAINERS (FIGURE 2). NOTE WITH THIS WEAVE THE PATTERN WILL PROGRESS FROM BOTH RIGHT AND LEFT TOP CORNERS (MIDDLE PATTERN DIAGRAM 6) BEFORE THE CENTRE PATTERN EMERGES.

AT ALL TIMES FIGURE 7 (DIAGRAM 3) IS THE KEY AND MUST BE REMEMBERED. AS THE WEAVE PROGRESSES (CENTRE DIAGRAM - DIAGRAM 6) THE STRAINERS WILL PULL DOWN IN A CURVE TOWARDS THE CENTRE. THIS CURVE SHOULD BE CONTROLLED WITH TEMPORARY TIES TO MAKE A TOE HOLE TO FIT OR SUIT THE SIZE OF THE WEARERS FOOT.

A METHOD OF ESTABLISHING THE WEAVE IN YOUR MIND BEFORE STARTING IS TO FOLLOW THE DRAWINGS ON DIAGRAM 6 WITH A PENCIL AND BE SURE THAT THE PATTERN IS WELL FORMED MENTALLY BEFORE SERIOUS MISTAKES ARE MADE.

FINISHING IS INDICATED IN THE BOTTOM RIGHT DRAWING DIAGRAM 6 BY USING THE LEFT OVER ROPE AS THE TOE HOLE LOOPING OVER THE BAR TO THE LEFT SIDE AND BACK TO BE MADE OFF AND RIVETED (TOP LEFT DRAWING DIAGRAM 6).

THE FRONT WEAVE LEFT A SURPLUS OF ROPE AND THIS IS NOW UTILIZED IN THE TOE HOLE PATTERN (FOLLOW TOP THREE DRAWINGS DIAGRAM 6) MAKE OFF THE END AS BEFORE.

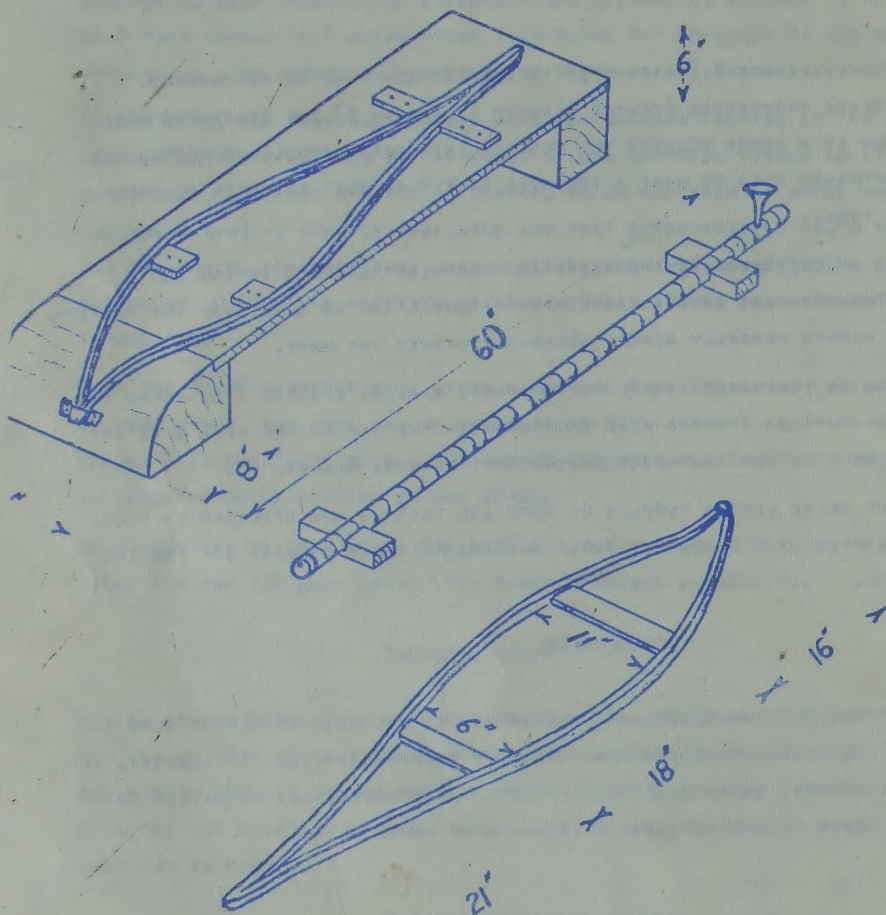
#### CONCLUSION

YOU HAVE NOW IN YOUR POSSESSION, ONE SNOWSHOE, ONE MESS OF STRING ROPE AND WOOD OR THE RELIEF THAT YOU READ ABOUT IT BEFORE STARTING. IF HOWEVER, ALL YOU HAVE GAINED, IS A SMALL INSIGHT INTO THE COMPLEXITIES OF NATIVE CRAFT THEN AT LEAST MY WRITINGS AND DRAWINGS WERE WORTH DOING.

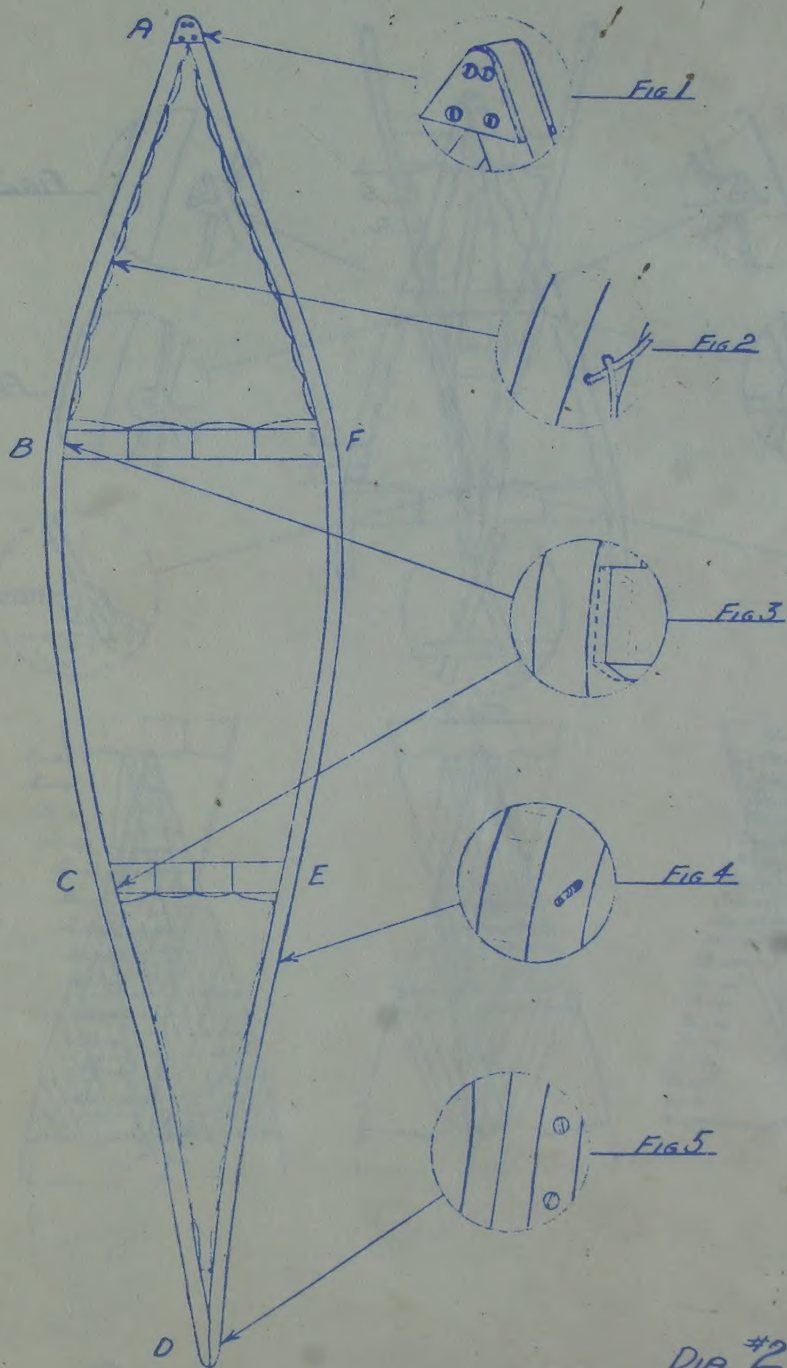
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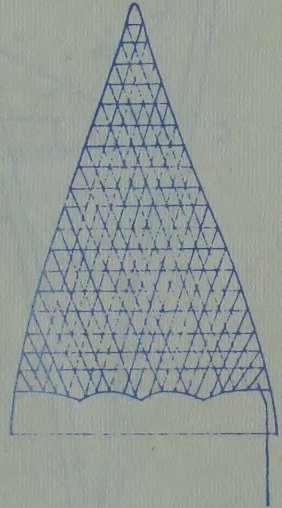
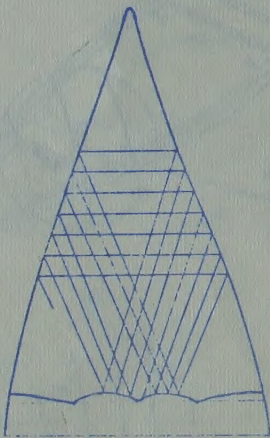
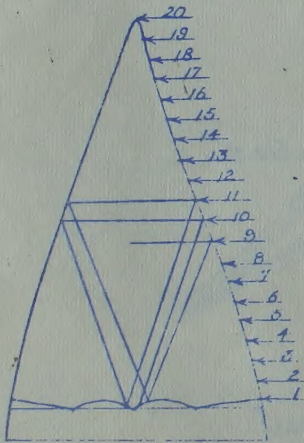
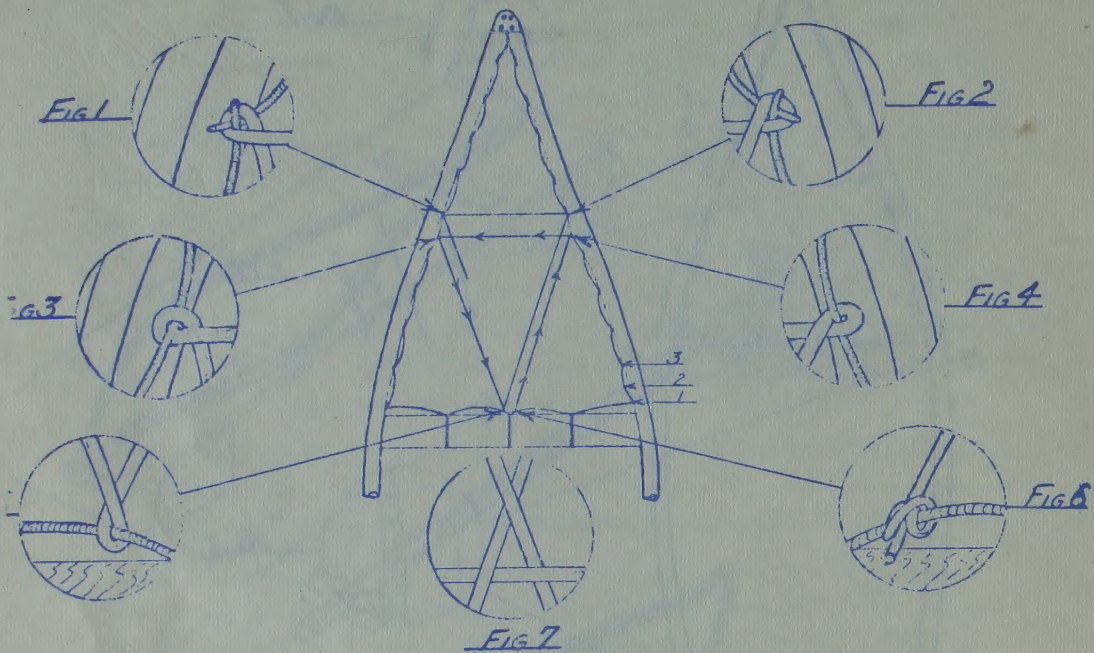
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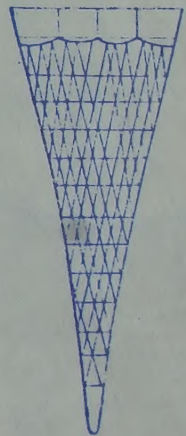
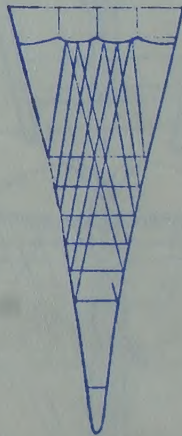
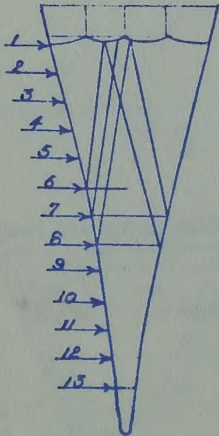
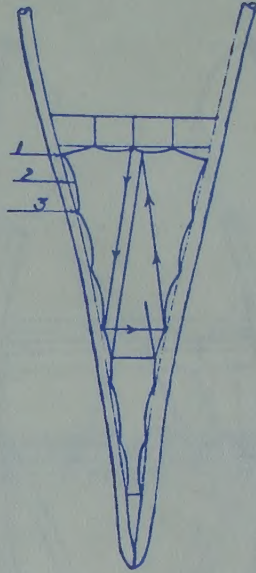
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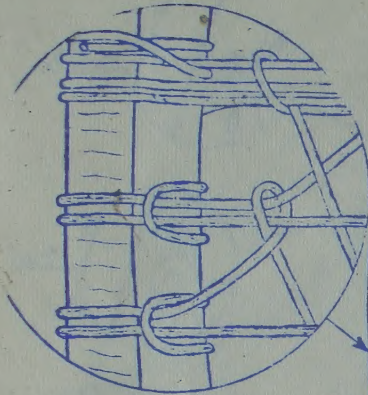


FIG 1

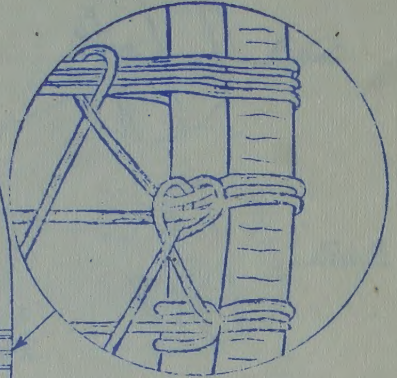


FIG 2

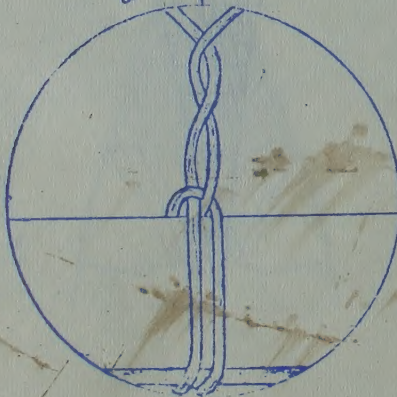
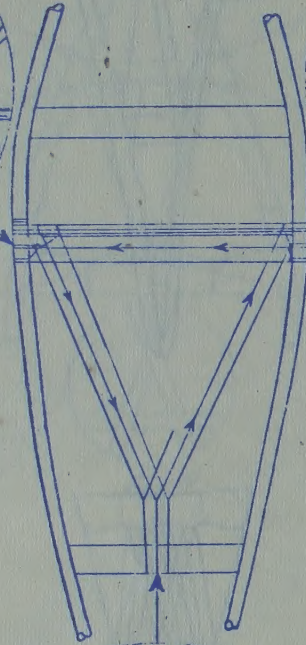
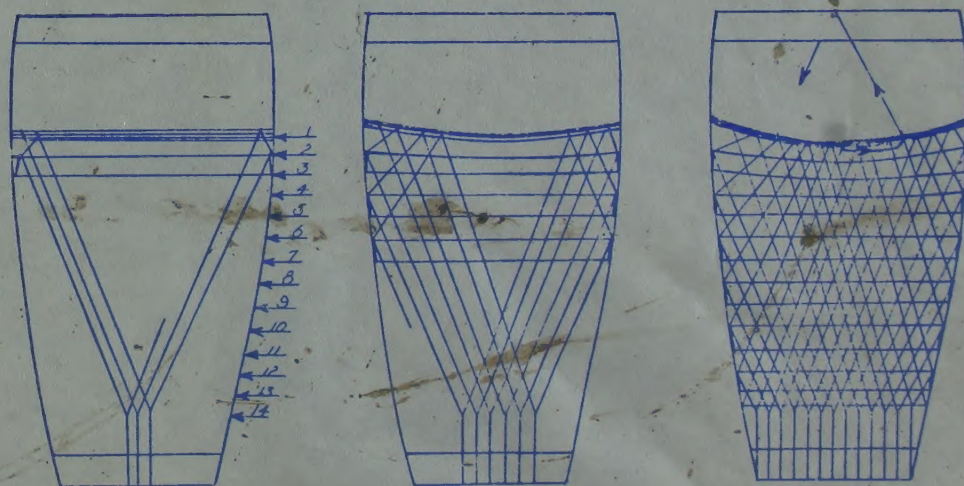
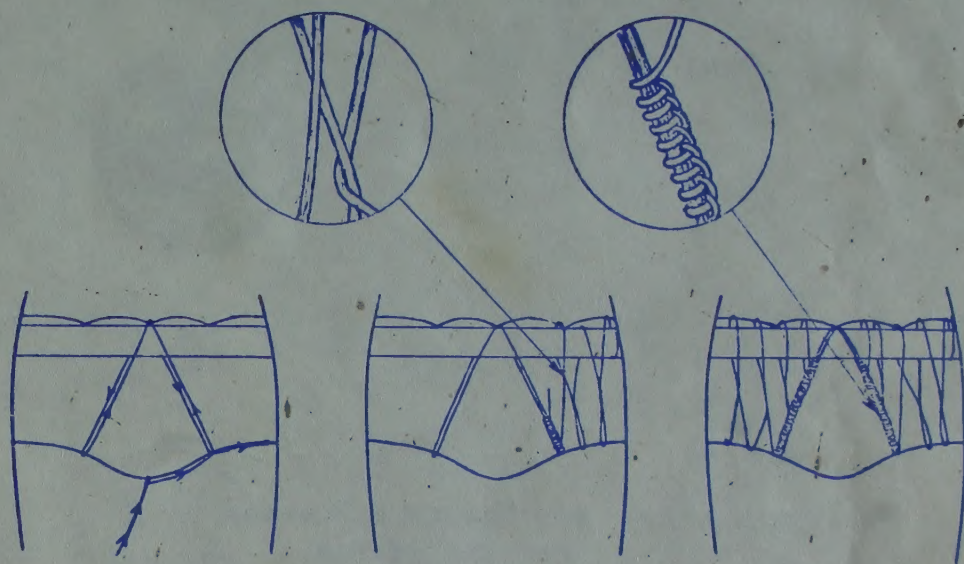


FIG 3





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